

Listing of the Claims:

The following is a complete listing of all the claims in the application, with an indication of the status of each:

1 1 (Previously presented). A surface treatment apparatus comprising:
2 a sheet heating unit which heats a sheet containing at least a
3 thermoplastic resin layer, the sheet being selected from a thermosensitive
4 recording sheet, an inkjet sheet, an electrophotographic sheet, a hot
5 developing sheet, a silver halide photography sheet, and a silver halide
6 digital photography sheet; and
7 a sheet depression and protrusion-forming unit disposed on a
8 downstream process side of the sheet heating unit which forms depressions
9 and protrusions on the thermoplastic resin layer.

1 2 (previously presented). A surface treatment apparatus according to Claim
2 1, wherein the sheet heating unit heats the sheet at a temperature equal to
3 or higher than the softening point of a thermoplastic resin in the
4 thermoplastic resin layer.

1 3 (Original). A surface treatment apparatus according to Claim 1, wherein
2 a thermoplastic resin forming the thermoplastic resin layer is a
3 polyethylene resin.

1 4 (previously presented). A surface treatment apparatus according to Claim
2 1, wherein the sheet comprises the thermoplastic resin layer and the
3 image-forming layer on a base, and
4 depressions and protrusions are formed on a surface of the
5 image-forming layer and at an interface of the image-forming layer with
6 the thermoplastic resin layer by the sheet depression and
7 protrusion-forming unit.

1 5 (Original). A surface treatment apparatus according to Claim 1, wherein

2 the sheet depression and protrusion-forming unit forms depressions and
3 protrusions at a temperature equal to or higher than the softening point of a
4 thermoplastic resin in the thermoplastic resin layer.

1 6 (Original). A surface treatment apparatus according to Claim 1, wherein
2 at least one of a depression depth, a protrusion height , and a depression
3 and protrusion surface density can be adjusted.

1 7 (Original). A surface treatment apparatus according to Claim 6, wherein
2 the protrusion height is 10 to 100 μm , and a depression and protrusion
3 interval is 10 to 300 μm .

1 8 (Original). A surface treatment apparatus according to Claim 1, wherein
2 at least one of a depression depth, a protrusion height, and a depression
3 and protrusion surface density can be adjusted according to customer
4 specifications.

1 9 (Previously presented). A surface treatment apparatus according to Claim
2 1, wherein the sheet depression and protrusion-forming unit forms
3 depressions and protrusions of different shapes in different parts of the
4 sheet according to an image to be formed on the sheet.

1 10 (Previously presented). A surface treatment apparatus according to
2 Claim 1, wherein the sheet depression and protrusion-forming unit
3 selectively drives plural wires, and depressions and protrusions are formed
4 by giving impacts to the sheet surface with the wires each comprising a
5 depression and protrusion-forming member attached to the end thereof.

1 11 (Previously presented). A surface treatment apparatus according to
2 Claim 10, wherein the sheet depression and protrusion-forming unit is an
3 impact printer head.

1 12 (Original). A surface treatment apparatus according to Claim 1, wherein
2 the sheet depression and protrusion-forming unit is a roller having surface
3 depressions and protrusions against the sheet.

13 (Canceled).

1 14 (Previously presented). An image-forming apparatus comprising:
2 an image-forming unit which forms a visible image on a sheet, and
3 a surface treatment unit, comprising;
4 a sheet heating unit which heats the sheet comprising at
5 least a thermoplastic resin layer, the sheet being selected from a
6 thermosensitive recording sheet, an inkjet sheet, an
7 electrophotographic sheet, a hot developing sheet, a silver halide
8 photography sheet, and a silver halide digital photography sheet,
9 and
10 a sheet depression and protrusion-forming unit disposed on
11 the downstream process side of the sheet heating unit which forms
12 depressions and protrusions on the thermoplastic resin layer, the
13 surface treatment unit performing surface treatment of the sheet on
14 which an image is formed by the image-forming unit.

1 15 (Original). An image-forming apparatus according to Claim 14, wherein
2 the sheet heating unit which heats the sheet at a temperature equal to or
3 higher than the softening point of a thermoplastic resin in the thermoplastic
4 resin layer.

1 16 (Previously presented). An image-forming apparatus according to
2 Claim 14, wherein the sheet comprises the thermoplastic resin layer and
3 the image-forming layer on a base, and
4 depressions and protrusions are formed on a surface of the
5 image-forming layer and at an interface of the image-forming layer with
6 the thermoplastic resin layer by the sheet depression and

7 protrusion-forming unit.

1 17 (Original). An image-forming apparatus according to Claim 14, wherein
2 the sheet depression and protrusion-forming unit forms depressions and
3 protrusions at a temperature equal to or higher than the softening point of a
4 thermoplastic resin in the thermoplastic resin layer.

1 18 (Previously presented). An image-forming apparatus according to
2 Claim 14, wherein the sheet depression and protrusion-forming unit forms
3 depressions and protrusions of different shapes in different parts of the
4 sheet according to an image to be formed on the sheet.

1 19 (Previously presented). An image-forming apparatus according to
2 Claim 14, wherein the sheet depression and protrusion-forming unit
3 selectively drives plural wires, and depressions and protrusions are formed
4 by giving impacts to the sheet surface with the wires each comprising a
5 depression and protrusion-forming member attached to the end thereof.

1 20 (Previously presented). An image-forming apparatus according to
2 Claim 19, wherein the sheet depression and protrusion-forming unit is an
3 impact printer head.

1 21 (Original). An image-forming apparatus according to Claim 14, wherein
2 the sheet depression and protrusion-forming unit is a roller having surface
3 depressions and protrusions against the sheet.

1 22 (Previously presented). An image-forming apparatus according to
2 Claim 14, further comprising:
3 a control unit which conducts one of driving and stopping driving
4 the surface treatment unit so as to control an execution of surface treatment
5 of the sheet.